



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 31, 2016

Mr. Bryan C. Hanson  
Senior Vice President  
Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO)  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2, – SUPPLEMENTAL  
INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING  
ACTION REGARDING HIGH BURNUP ATRIUM-10 PARTIAL LENGTH FUEL  
RODS (CAC NOS. MF8442 AND MF8443)

Dear Mr. Hanson:

By application dated September 30, 2016, Exelon Generation Company, LLC (EGC, the licensee) submitted a license amendment request (LAR) for LaSalle County Station (LSCS), Units 1 and 2, respectively. The proposed amendment request would revise the LSCS licensing basis to allow movement of irradiated Atrium-10 fuel bundles containing part length rods that have been in operation above 62,000 MWD/MTU (megawatt days per metric ton of uranium), which is the current rod average burnup limit specified in Footnote 11 of the U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," to which LSCS is committed.

The purpose of this letter is to provide the results of the NRC staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment/relief request in terms of regulatory requirements and the protection of public health and safety and the environment.

B. Hanson

- 2 -

In order to make the application complete, the NRC staff requests that the licensee supplement the application to address the information requested in the enclosure by close of business November 17, 2016. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Mr. Kenneth M. Nicely of your staff on October 31, 2016.

If you have any questions, please contact the LaSalle County Station, Units 1 and 2, Project Manager, Bhalchandra K. Vaidya, at (301) 415 3308.

Sincerely,

A handwritten signature in black ink that reads "B.K. Vaidya". The signature is written in a cursive style and is positioned above the typed name.

Bhalchandra K. Vaidya, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosure:  
As stated

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SUPPLEMENTAL INFORMATION NEEDED  
AMENDMENT REQUEST REGARDING  
HIGH BURNUP ATRIUM-10 PARTIAL LENGTH FUEL RODS  
EXELON GENERATION COMPANY, LLC  
LASALLE COUNTY STATION, UNITS 1 AND 2,  
DOCKET NO(S). 50-373 AND 50-374

The subject LAR discusses the potential impacts to the alternate source term (AST) calculations which form part of the licensing basis for LSCS, that would result from some part length rods exceeding an average rod exposure of 62 GWd/MTU (gigawatt days per metric ton of uranium). This limit is established in RG 1.183 as an upper boundary to the applicability of the release fractions provided in Tables 1 and 3. The LAR includes an extended discussion on the applicability of the Table 3 data to the fuel handling accident. The licensing basis for LSCS also utilizes AST for the radiological consequences associated with a loss-of-coolant accident (LOCA), as discussed in Section 15.6.5.5 of the updated final safety analysis report FSAR). As per Section 15.6.5.5.3 of the UFSAR, the release fractions listed in Table 1 of RG 1.183 are used in these analyses. The LAR does not provide a discussion of the applicability of the RG 1.183, Table 1, release fractions to the analysis of the radiological consequences from a LOCA if an undefined number of part length rods exceed the 62 GWd/MTU limit stated in RG 1.183. The LAR does state that the LOCA dose analysis is bounded because the core average exposure does not exceed 62 GWd/MTU; however, the footnote to Table 1 in RG 1.183 indicates that the limit is for peak burnups rather than average burnups. While the total release inventory in the core is directly proportional to core average burnup, the variation in release fractions is not linear with exposure. Please provide additional justification that the release fractions from Table 1 of RG 1.183 are still applicable when an undefined number of rods may exceed the 62 GWd/MTU rod average burnup limit.

Enclosure

B. Hanson

- 2 -

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If you have any questions, please contact the LaSalle County Station, Units 1 and 2 Project Manager, Bhalchandra K. Vaidya, at (301) 415 3308.

Sincerely,

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Bhalchandra K. Vaidya, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosure:  
As stated

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OFFICE	NRR/DORL/LPL3-2/PM	NRR/DORL/LPL3-2/LA	NRR/DSS/SNPB/BC
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DATE	10/27/2016	10/27/2016	10/26/2016
OFFICE	NRR/DORL/LPL3-2/BC(A)	NRR/DORL/LPL3-2/PM	
NAME	EGMiller	BVaidya	
DATE	10/27/2016	10/31/2016	

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